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Corps of Engineers' New England District takes over Fox Point Hurricane Barrier in Providence

CONCORD, Mass. – The U.S. Army Corps of Engineers, New England District, has taken over the operations and maintenance of the Fox Point Hurricane Barrier in Providence, Rhode Island, as of Feb. 1, 2010. Day-to-day management of the Fox Point Hurricane Barrier now falls under the Corps of Engineers' Cape Cod Canal Field Office in Buzzards Bay, Mass. Operation and maintenance responsibility remains with the City of Providence for the earth fill dikes with stone slope protection that flank each side of the barrier and for the five vehicular street gates and the five sewer gates that comprise the rest of the project.

"The Fox Point Hurricane Barrier provides critical flood protection to the state capital and has prevented loss of life and property time and again since its construction in 1966," said Col. Philip T. Feir, commander of the U.S. Army Corps of Engineers, New England District.

A transition ceremony was held Feb. 19, 2010 at the hurricane barrier and Sen. Jack Reed and Providence Mayor David Cicilline marked the occasion of formally turning over the project to the U.S. Army Corps of Engineers.

"The Corps of Engineers will now be able to address operations and maintenance requirements of the hurricane barrier," Feir said. Repair work that needs to be done on the hurricane barrier includes replacement of the electro-mechanical control system, rehabilitation of one flood control pump, repair of a second floor control pump, rehabilitation of one canal cooling water gate, repair of tainter gates and service bridge associated with structure settlement, replacement of power and control wiring for the three river (tainter) gates, pump station roof repair, miscellaneous concrete repairs, painting of tainter gates and development of a maintenance management system.

The hurricane barrier provides protection against tidal flooding from hurricanes and other storms to approximately 280 acres of downtown Providence. The protected area includes the commercial and industrial center, transportation facilities, public utilities and many homes. The city of Providence suffered extensive damage from the hurricane of 1938 and Hurricane Carol in 1954 when, in each instance, water depths of up to eight feet were experienced in the city's commercial area. Damage from the 1938 hurricane amounted to \$16.3 million; and damage from Hurricane Carol amounted to \$25.1 million.

Construction of the hurricane barrier began July 1961 and was completed in January 1966, at a cost of \$15 million. After construction was completed, the project was turned over to the city of Providence for operations -- more --



Corps takes over Fox Point Hurricane barrier/2-2-2-2

and maintenance and the city has been providing that service until the recent legislation by Congress to turn the project over to the Corps of Engineers for operations and maintenance.

The hurricane barrier is a 700-foot-long concrete structure, 25 feet high, that extends westerly across the Providence River from Tockwotton Street, near Fox Point, to Globe Street, near the power plant. The structure contains three tainter gate openings that prevent the entry of floodwaters from the bay when closed and permit passage of small vessels when open. Each gate is 40 feet high and 40 feet wide. Two 10- to 15-foot high earthfill dikes with stone slope protection, flank each side of the barrier. The eastern dike is 780 feet long and the western dike is 1,400 feet long.

A pumping station and cooling water canal are integral parts of the project. During a tidal/flood situation, the pumping station's five large pumps can discharge the floodwaters of the Providence River through the barrier into the bay. Two gated openings in the pumping station, each 10 feet high and 15 feet wide, admit water into the cooling water canal used by Dominion Energy, located immediately behind the barrier. There are five vehicular gates located at Allens Avenue, South Main Street, India Street, South Water Street and at Dominion Energy and five sewer gates that prevent high tides from back up through the sewer lines.

Congress authorized responsibility of the operation and maintenance of the Fox Point Hurricane Barrier to the Secretary of the Army from the city of Providence, beginning in October 2008. This authorization was included in the FY2007 National Defense Authorization Act and required the city to convey real estate to the Secretary.

The city of Providence continued to operate and maintain the project until funding was appropriated and all legal and real estate issues were resolved, to allow the Corps of Engineers to make the transfer and begin operation and maintenance of the hurricane barrier. More information about the Corps' New England District is available on its website at http://www.nae.usace.army.mil.

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